The Water Utility Enterprise

Final-June 1985

Santa Clara Valley Water District

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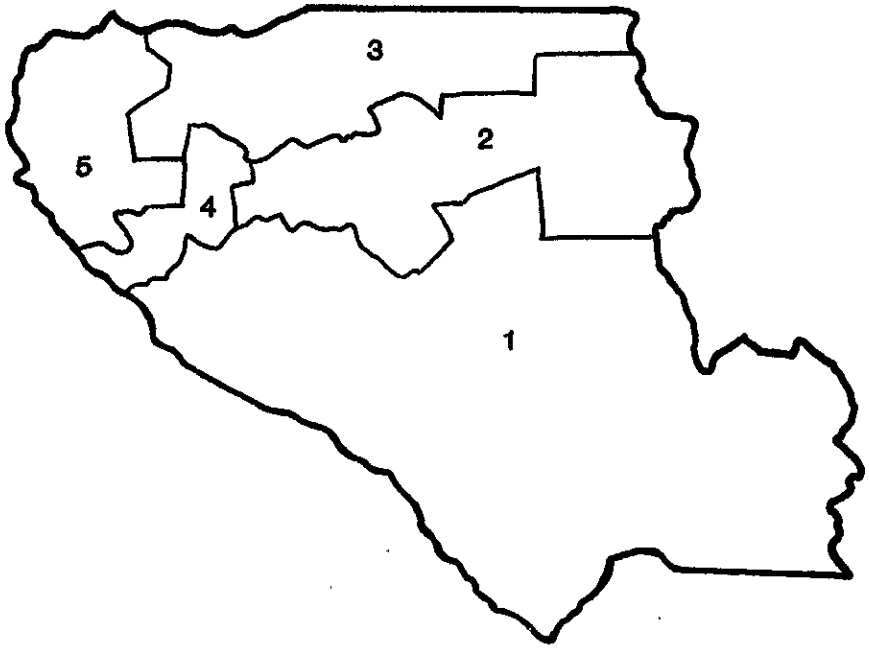

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Santa Clara Valley Water District

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Board of Directors:

Rainfall in Santa Clara County during 1983-84 was about 92% of normal making it necessary to draw on groundwater basin and surface reservoir storage to meet water needs. The 1984-85 rainfall is about 70% of normal; it is anticipated that the local supplies combined with imported water from the State Water Project and the Hetch Hetchy Project will adequately meet the water needs of the County in 1985.

Construction is progressing on the San Felipe Division of the Federal Central Valley Project. Section 1 of the Santa Clara Conduit, Section 1 of the Pacheco Conduit and Pacheco Pumping Plant and Substation are essentially complete. Work is progresssing on Section 2 of the Santa Clara Conduit and Section 2 of the Pacheco Conduit. The last large contract, the Coyote Pumping Plant, was awarded in February 1985. Sufficient federal funding and satisfactory construction progress will be required to complete the project and provide San Felipe water to the District by 1987-88.

Expansion of the In-County Distribution System continues. The third phase of the Cross Valley Pipeline is complete, and Phase IV (the final phase) Cross Valley Pipeline and Anderson Force Main are essentially complete.

The Engineer's Reports and EIR's on the Santa Teresa Water Treatment Plant and Snell Pipeline have been completed. Design is progressing on both the Santa Teresa Water Treatment Plant and Snell Pipeline.

The Engineer's Reports on the hydroelectric power generation facilities at Anderson Dam and Kirk/Page Turnouts from the Central Pipeline are complete. Construction drawings are being prepared for the Anderson site, and application for exemption for licensing is being prepared for the Kirk/Page site.

Recently, the Water Utility Enterprise has been impacted by the District's involvement with the cities and the County in efforts to regulate the storage of hazardous materials, and with the Regional Water Quality Control Board in efforts to have toxic spill sites within Santa Clara County identified and cleaned up. The District's major objective — and the basis for its involvement — is to protect the groundwater basin from further contamination by hazardous materials. A Well Sealing program authorized by the Board of Directors in July, 1984 and efforts to assist other agencies in their work to reduce groundwater contamination have been initiated.

Following meetings with the Treated Water Contractors, Retail Water Agencies, Agricultural Water Advisory Committee, and Santa Clara Valley Water Commission, the District Board of Directors adopted water rates and tax revenues for 1985-86 which are shown at the end of this report. Groundwater charges and equivalent basic user rates for 1985-86 are $90 per acre-foot for municipal and industrial water and $22.50 per acre-foot for agricultural water in Zones W-2, W-3.1, W-3.2, W-3.3, and W-3.5. No groundwater charges were adopted for Zones W-5 or W-6 in 1985-86; however, it is anticipated that groundwater charges in Zone W-5 will be considered concurrently with the availability of San Felipe water.

John T. O'Halloran
General Manager

This is the fourteenth annual report on the status of the Santa Clara Valley Water District's Water Utility Enterprise. The purpose of this report is to provide information on the following items:

- Current and future water requirements of Santa Clara County
- Current and future water supply available to meet those requirements
- Future capital improvement needs
- Future financial needs of the Water Utility Enterprise including expenditures and a means of financing them
- Water charges to be levied in any zone or zones of the District for the next fiscal year

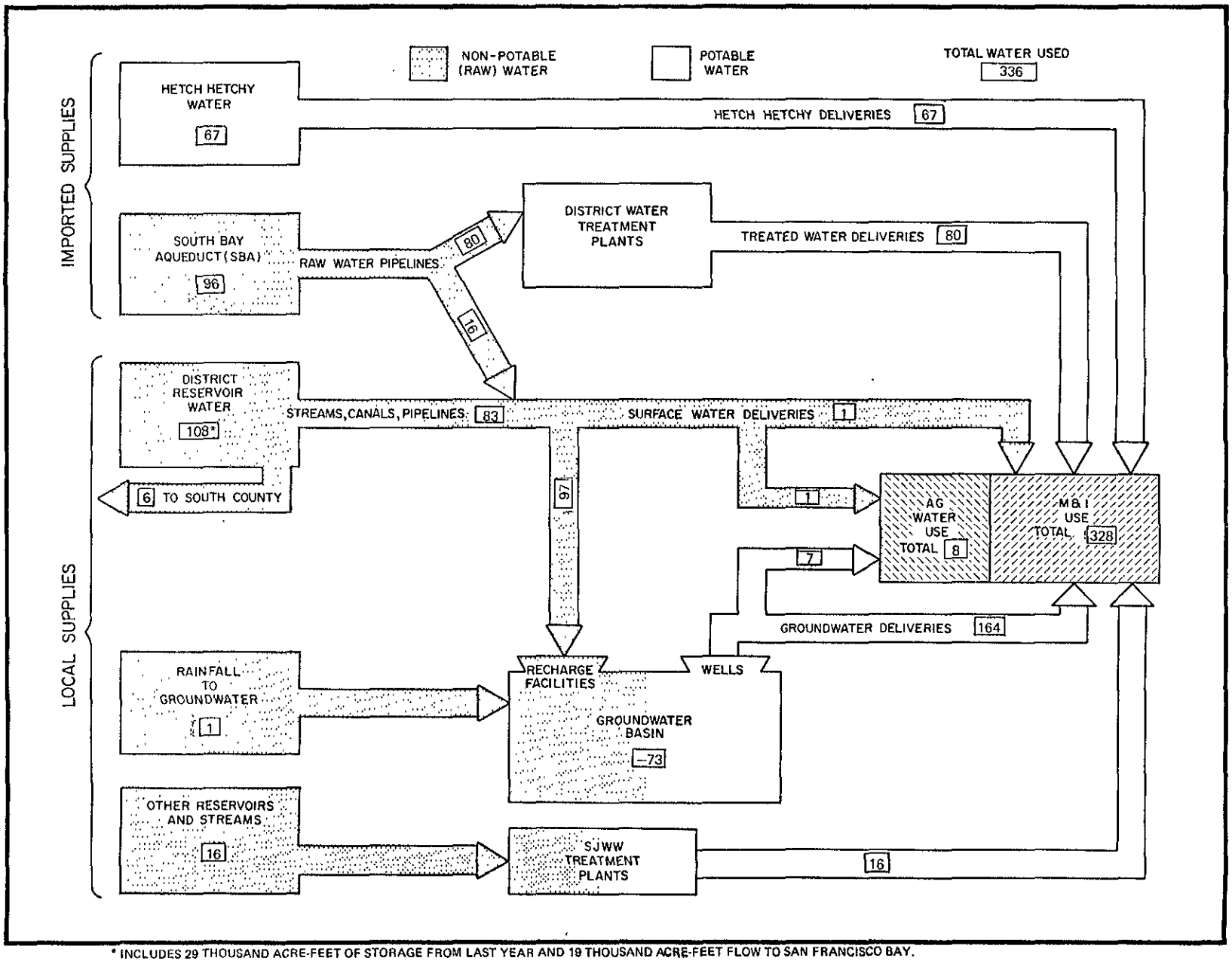
1983-84 Water Picture...

Rainfall in Santa Clara County during 1983-84 was about 92% of normal resulting in a reduction in the amount of water stored in local reservoirs and groundwater subbasins.

During this period, total water use in North Santa Clara County was about 15% more than in 1982-83 with M&I water use increased by 15% and agricultural water use increased by 14%.

The 1983-84 annual water supply and use for North Santa Clara County are summarized in the diagram at the right. As shown, the total water use was 336,000 acre-feet, while the combined local and imported water supply was only 234,000 acre-feet. The deficit of 102,000 acre-feet was supplied by withdrawing 29,000 acre-feet from reservoir storage and 73,000 acre-feet from groundwater subbasins.

WATER SUPPLY AND USE
NORTH SANTA CLARA COUNTY
1983-84
(All values in 1,000 Acre-Feet)



* INCLUDES 29 THOUSAND ACRE-FEET OF STORAGE FROM LAST YEAR AND 19 THOUSAND ACRE-FEET FLOW TO SAN FRANCISCO BAY.

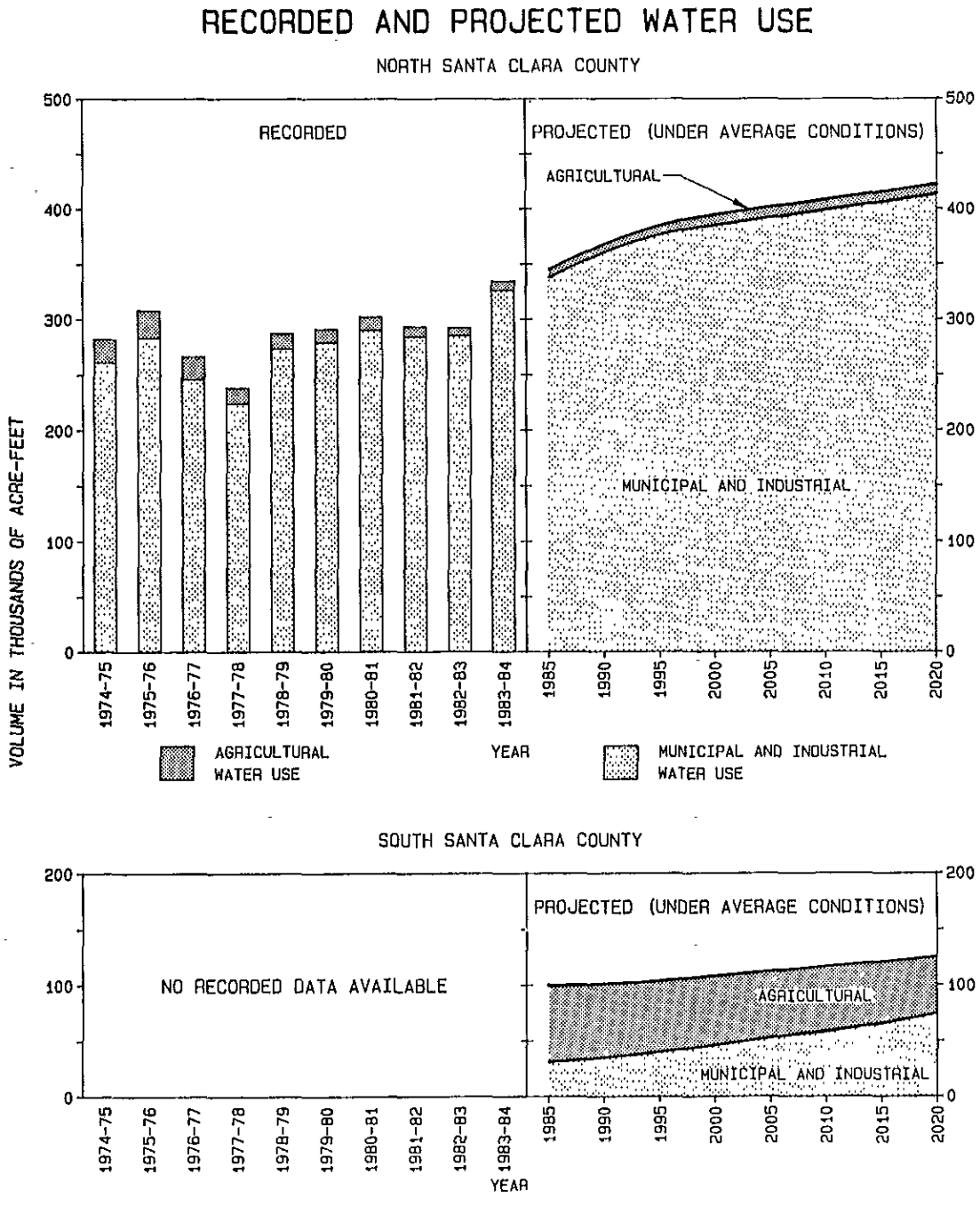
Water Use...

Water use in Santa Clara County is categorized as either agricultural or municipal and industrial. Recorded North County water use since 1973-74 is shown to the right.

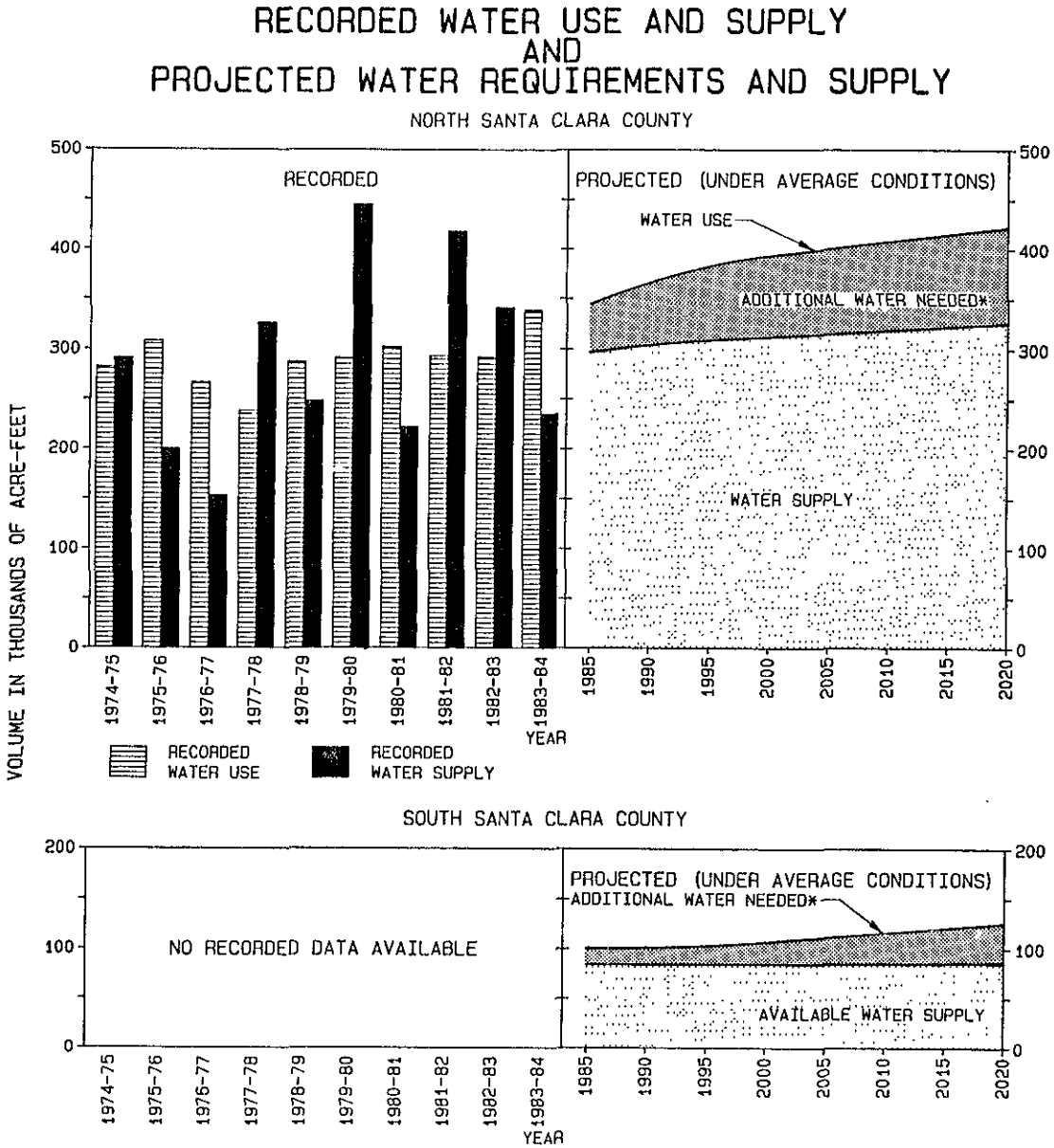
Water use in North Santa Clara County is predominantly municipal and industrial. The projections show an increase through 2020 when the total annual water use is estimated to be 420,000 acre-feet. Agricultural water use is expected to continue to decrease through 2020.

Water use in South Santa Clara County, the area south of Metcalf Road, has been primarily agricultural and has been met by available local supplies, mainly from groundwater pumping. In South Santa Clara County, it is anticipated that municipal and industrial water requirements will continue to increase while agricultural requirements will decrease. Total annual water use in South Santa Clara County is projected to increase to about 125,000 acre-feet by 2020.

Presently, portions of Zone W-5 in the South County do not have a formal groundwater production measurement program. Thus, estimates of water use in South County have been primarily based on land use and can only be considered approximate.



...and Water Supply



* ADDITIONAL WATER NEEDED TO BE SUPPLIED FROM THE SAN FELIPE DIVISION CENTRAL VALLEY PROJECT.

Present sources of water supply in North Santa Clara County consist of locally conserved water and water imported via Hetch Hetchy and South Bay Aqueducts. The recorded annual water supply and water use in North Santa Clara County since 1973-74 are shown to the left.

In 1983-84, local water supplies in the County were slightly less than average. During this period, water was withdrawn from surface reservoirs and the groundwater subbasins. The 1984-85 rainfall is about 70% of normal, and it is anticipated that adequate local and imported supplies will be available to meet water needs during 1985.

As shown in the graphs on the left, projected water use under average water supply conditions exceeds available water supply on a yearly basis. As a result, it may be necessary to withdraw water from groundwater and surface reservoir storage to meet water needs until supplemental water becomes available from the San Felipe Division.

In-County Water Distribution System...

In 1975, the District published its Master Plan describing projects needed to meet projected water needs in Santa Clara County through the year 2020. The construction program of new facilities needed to meet projected water needs has been recently updated to meet changing conditions. The major facilities proposed to be constructed between now and 1989 are the Santa Teresa Water Treatment Plant, Snell Pipeline, Calero Pipeline, Milpitas Pipeline, and Mountain View Distributary. Under the current program, construction of the west-side facilities, including Rinconada Water Treatment Plant Expansion, West Reservoir and Delivery Main, West Pipeline Extension, and Parallel West Pipeline is scheduled for the 1990-93 period.

The 1983 master plan report on the South County recommended a groundwater recharge and extraction system for meeting projected supplemental South County water needs. Purchase of land, initiated in 1984, is scheduled to be complete in 1985-86.

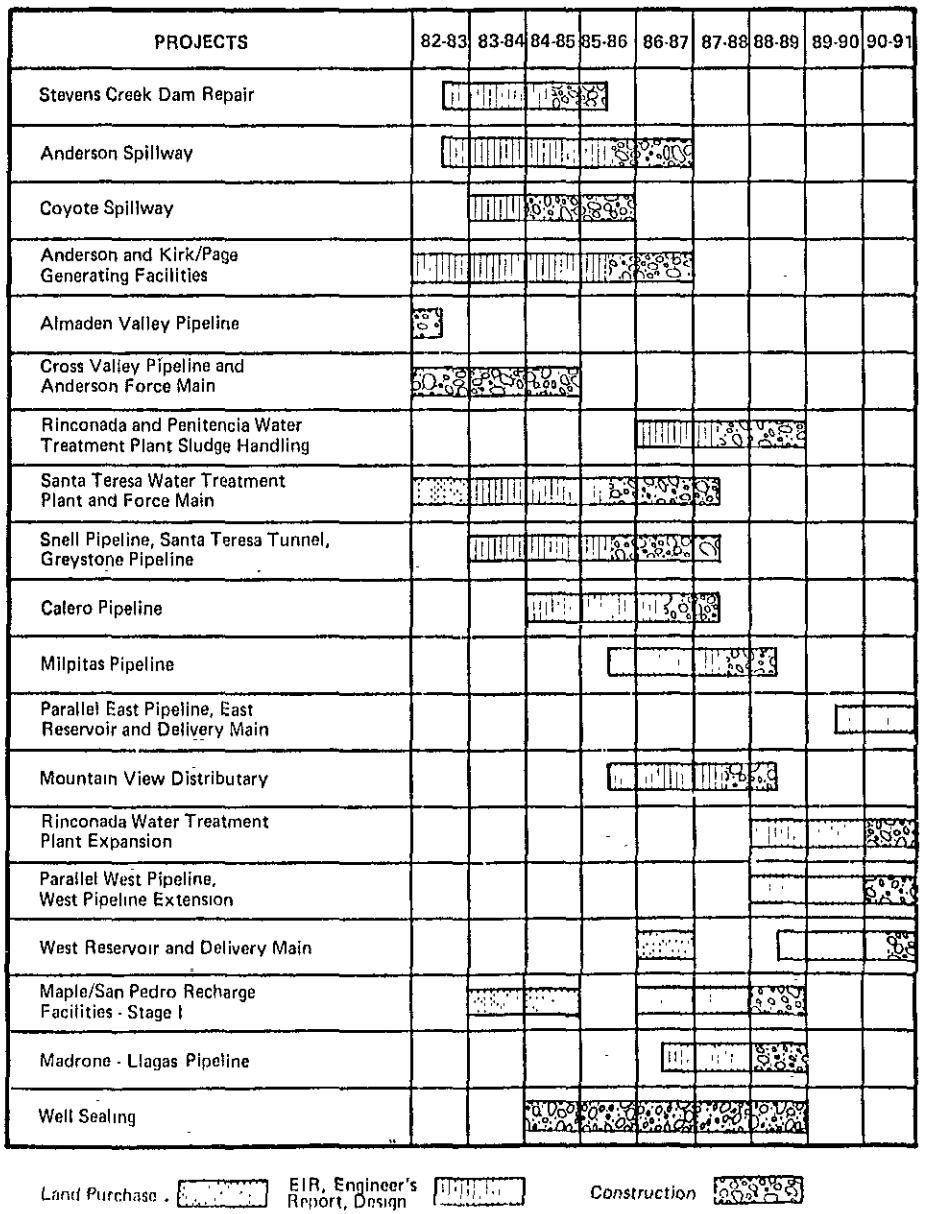
The District recently evaluated several of its facilities for hydroelectric power generation potential. Three sites have been found to have favorable benefit-cost ratios; Anderson Dam, Calero Pipeline, and the Kirk and Page Turnouts from the Central Pipeline.

The District is under a mandate from the State Division of Safety of Dams to reinforce Stevens Creek Dam and to increase the spillway capacity of Anderson Dam. The Stevens Creek Dam Project was awarded in May 1985 for $2,658,000. Major repairs to the Coyote Spillway are currently under construction.

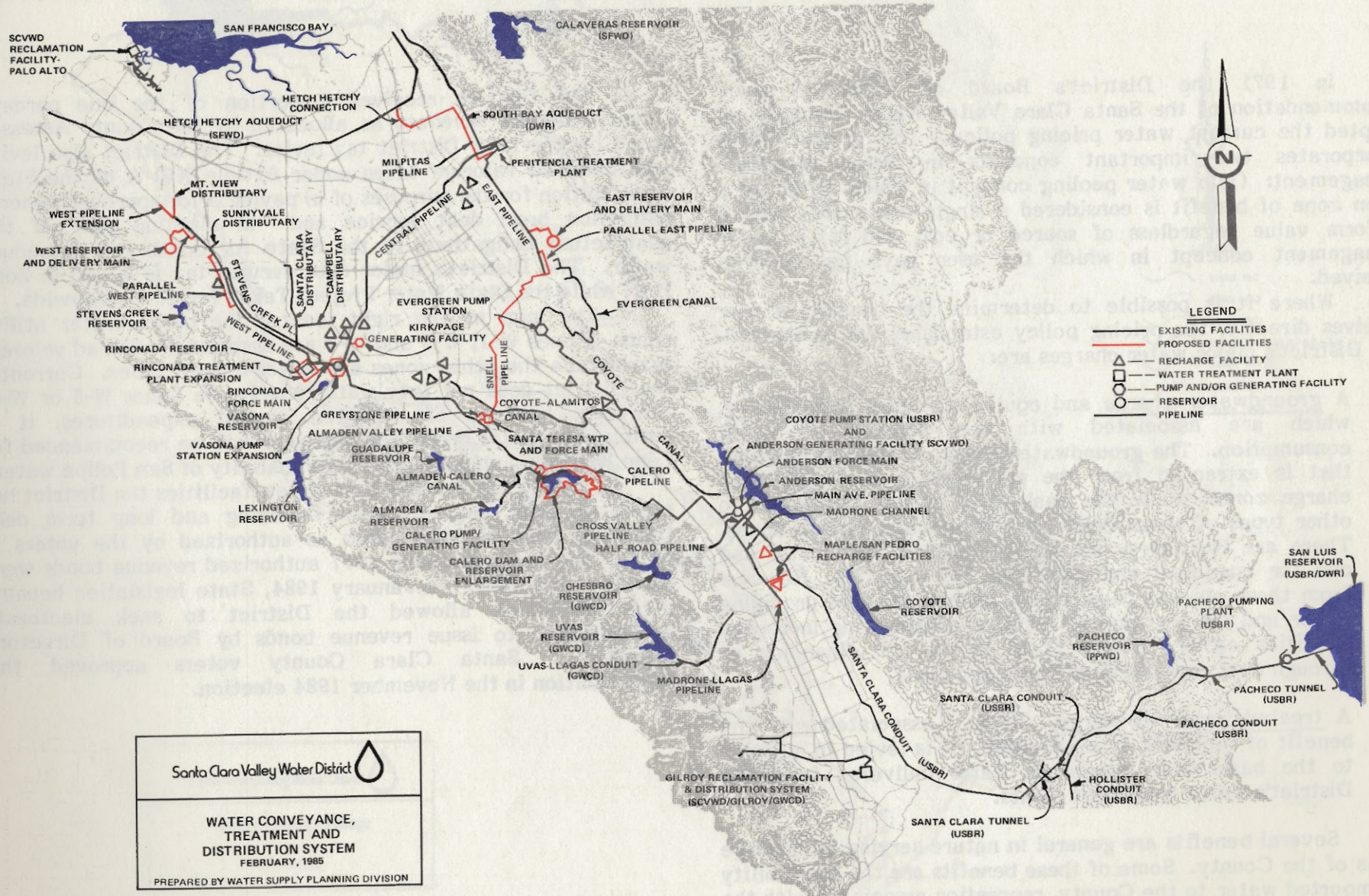
The District is faced with a substantial sludge handling and disposal problem at its water treatment plants. Sludge dewatering and handling facilities are proposed at Penitencia and Rinconada Water Treatment Plants. Sludge dewatering and handling facilities for the Santa Teresa Water Treatment Plant will be included in its design.

The map on the following page shows the location of the District's major existing and proposed facilities.

PROJECTED NEW FACILITY CONSTRUCTION PROGRAM
FOR THE WATER UTILITY ENTERPRISE
1982-83 THROUGH 1990-91



...Improvement and Expansion



Sources of Revenue...

In 1971 the District's Board of Directors, upon recommendation of the Santa Clara Valley Water Commission, adopted the current water pricing policy. This pricing policy incorporates two important concepts in water resources management: (1) a water pooling concept in which water for a given zone of benefit is considered a single commodity with a uniform value regardless of source or cost and (2) a water management concept in which the user pays for benefits received.

Where it is possible to determine the benefits a user receives directly, the pricing policy establishes water charges. The District's major water charges are:

- A groundwater charge and equivalent basic user charge, which are associated with the benefit of water consumption. The groundwater charge is applied to water that is extracted from the groundwater basin in water charge zones, while the basic user charge is applied to other types of water delivered within water charge zones. There are two rates, one for agricultural (Ag) water and one for municipal and industrial (M&I) water. Revenue from these charges pays for the general costs of providing water and for the capital costs of constructing in-county facilities either through "pay as you go" financing or through debt repayment of bonds and loans.

- A treated water surcharge, which is associated with the benefit of receiving treated water. It is levied in addition to the basic user charge on water delivered from the District's water treatment plants.

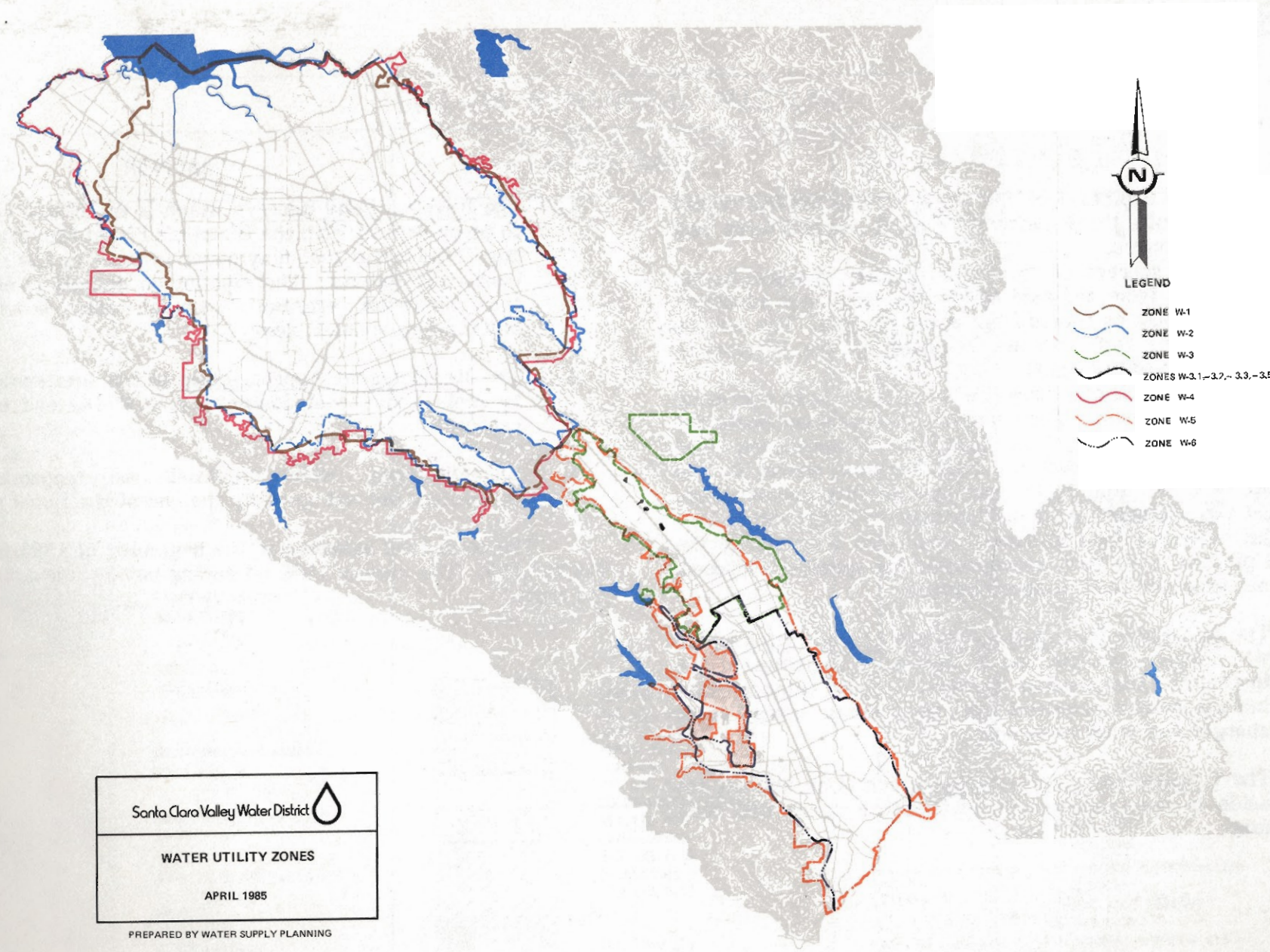
Several benefits are general in nature serving all or large areas of the County. Some of these benefits are the availability of imported water to the County, recreation associated with the District's reservoirs, and the replenishment of the County's groundwater subbasins which has halted land surface subsidence and which provides a supply of water in drought periods.

The District receives a portion of the one percent Countywide tax revenues as allocated by the County Assessor based on pre-1978 District tax levies. The District also levies additional ad valorem taxes under Article XIII A of the State Constitution for the purposes of a) paying prior approved general obligation bond debt service and b) meeting part of the contractual obligations to the State for South Bay Aqueduct water. The District's major debt service tax is levied in Zone W-1, while the State Water Project Tax is levied Countywide.

The map at the right locates the major water utility zones. Zones W-1, W-3 and W-4 are associated with ad valorem taxes while the other zones are water charge zones. Currently the District does not levy water charges in Zones W-5 or W-6. However, because of expected capital expenditures, it is anticipated that a groundwater charge will be recommended for Zone W-5 commencing with the availability of San Felipe water.

To fund the construction of new facilities the District has relied on both pay-as-you-go financing and long term debt financing from revenue bonds as authorized by the voters in 1977. The last remaining 1977 authorized revenue bonds were sold in April 1984. In January 1984, State legislation became effective which allowed the District to seek electorate authorization to issue revenue bonds by Board of Directors' approval. Santa Clara County voters approved this authorization in the November 1984 election.

. . . Related to Costs of Providing Benefits



The Financial Picture...

The financial picture of the Water Utility Enterprise has been separated into three parts: revenue, expenditures and year-end fund balances.

The major sources of revenue are water charges, taxes, and the proceeds from the sale of bonds. Revenues advanced from bond sales must be repaid from water charges. The various components of the total revenue received by the District in 1983-84 are shown to the right.

Total annual expenditures are made up of both operating and non-operating costs. They include the program costs for Administration, Planning, Construction, Maintenance and Operations. Also included is Debt Service which is the repayment of bonds sold to finance new facility construction. The actual expenditures for 1983-84 are shown to the right.

The year-end fund balances, the third element of the financial picture, have been appropriated for specific purposes. The various year-end fund balances include:

1. The In-County Distribution System Appropriation which will finance construction of necessary facilities of the In-County Distribution System. This balance may include monies received from bond sales, taxes, water charges and other revenues.

2. The Contingency Appropriation which is an amount set aside to meet unforeseen expenditure needs that may arise.

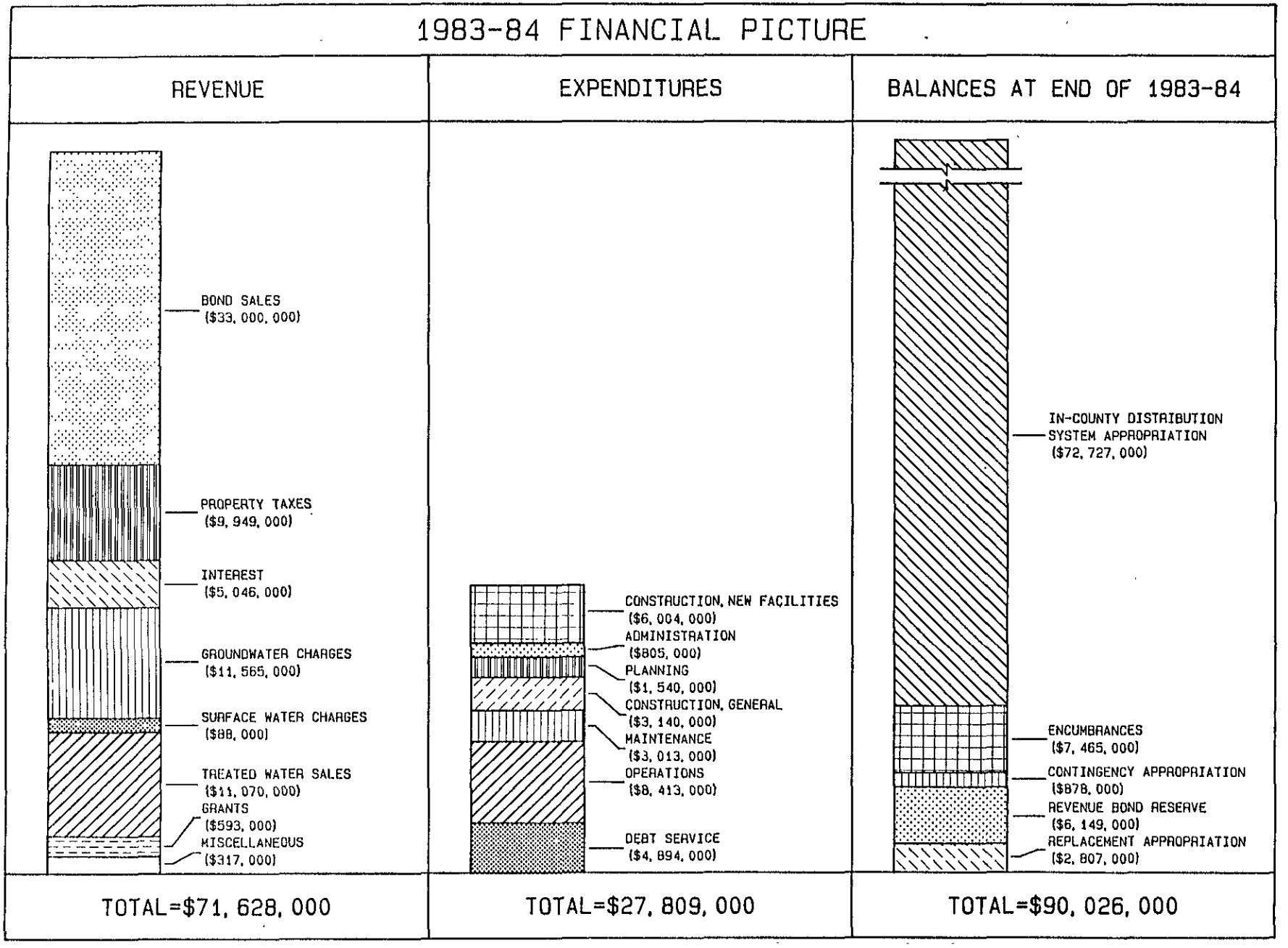
3. The Revenue Bond Reserve which is an amount required to be on deposit with the District's Fiscal Agent to meet any deficiencies that may occur in meeting the revenue bond debt service. The amount on deposit is equal to the maximum aggregate annual debt service on outstanding revenue bonds.

4. The Replacement Appropriation which sets aside funds to replace major equipment items at the end of their useful life.

5. Encumbrances which consist of appropriations committed but not spent by the end of the fiscal year.

The total fund balances at the beginning of 1983-84 were $46,207,000. The various 1983-84 ending balances are shown to the right.

...of the Water Utility Enterprise (1983-84)



Financial Estimates...

Revenue, expenditures and year-end balances for the 1984-85 fiscal year as estimated in February 1985 are shown in the graph on the opposite page.

Revenue from groundwater charges and raw surface water sales is collected semiannually in the month following the 6 month period in which the water was used. Therefore, the 1984-85 revenue projections incorporate the collection for groundwater extractions and raw surface water deliveries made in the latter half of 1983-84 based on groundwater charges and basic user rates of $80 per acre-foot for municipal and industrial (M&I) water and $20 per acre-foot for agricultural (Ag) water. The rates applicable to groundwater extractions and raw surface water deliveries made in the first half of 1984-85, which are due and payable in that year, are $85 per acre-foot for M&I water and $21.25 for Ag water.

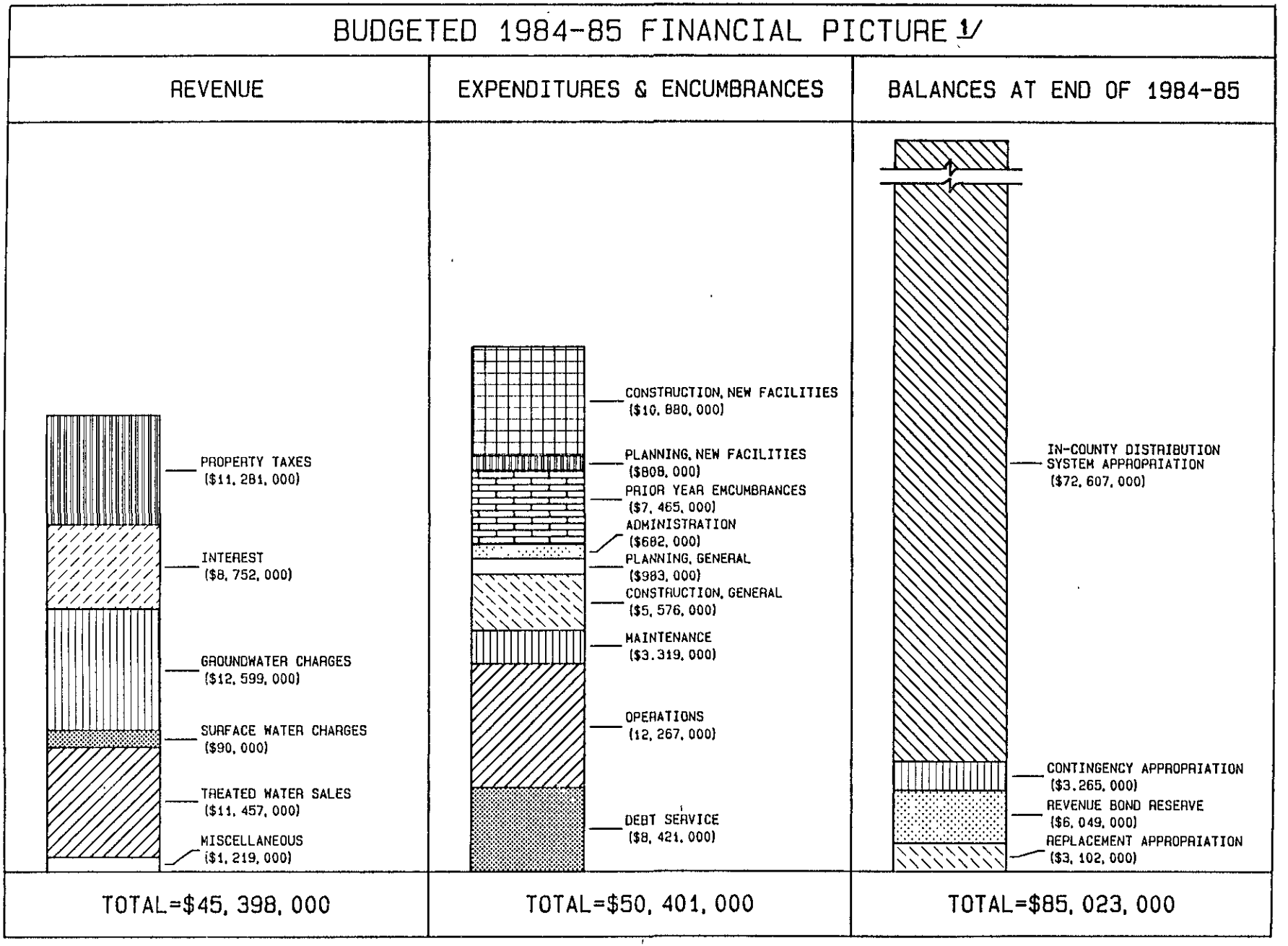
The treated water sales revenue for 1984-85 is based on the basic user rate of $85 and the treated water surcharge rate of $75 for a combined rate of $160 per acre-foot.

Estimated revenue from property taxes includes income from the one percent allocation ($3,913,000), from debt service taxes ($2,193,000), and from the State Water Project Tax ($5,175,000).

The estimated 1984-85 expenditures are as shown in the table on the opposite page. The major expenditures for the year are Cross Valley Pipeline Phase IV and Anderson Force Main construction ($4,915,000) and Stevens Creek Dam Repair design and construction (awarded in May 1985 for $2,658,000). Other major expenditures are Coyote Spillway repair construction (awarded in May 1985 for $1,094,000), Santa Teresa Water Treatment Plant, Santa Teresa Tunnel, Greystone Pipeline, Santa Teresa Force Main, and associated pipelines planning and design ($2,455,000), Snell Pipeline planning and design ($1,130,000), and Maple Avenue Recharge Facility land purchase ($1,527,000). The In-County Credit for Hetch Hetchy water purchases made in the last half of 1983-84 was $69,000. This is the last payment under that program.

The cost of imported water from the State Water Project is estimated at about $9,184,000 in 1984-85. This cost reflects the large increase in power charges that went into effect in April 1983.

• • • for the Current Year (1984-85)



1/ ESTIMATED IN FEBRUARY 1985.

Financial Projections...

Revenue as projected in February, 1985 for fiscal year 1985-86 is shown on the opposite page. The projected revenue is based on groundwater charges and basic user rates for groundwater extractions and raw surface water deliveries made in the later half of 1984-85, which are due and payable in 1985-86, of $85 per acre-foot of M&I Water and $21.25 per acre-foot of Ag Water. The corresponding rates for groundwater extractions and raw surface water for the first half of 1985-86 and for treated water throughout the year are $90 per acre-foot of M&I Water and $22.50 per acre-foot of Ag Water. The treated water surcharge rate for 1985-86 is $80 per acre-foot for a total treated water charge of $170 per acre-foot.

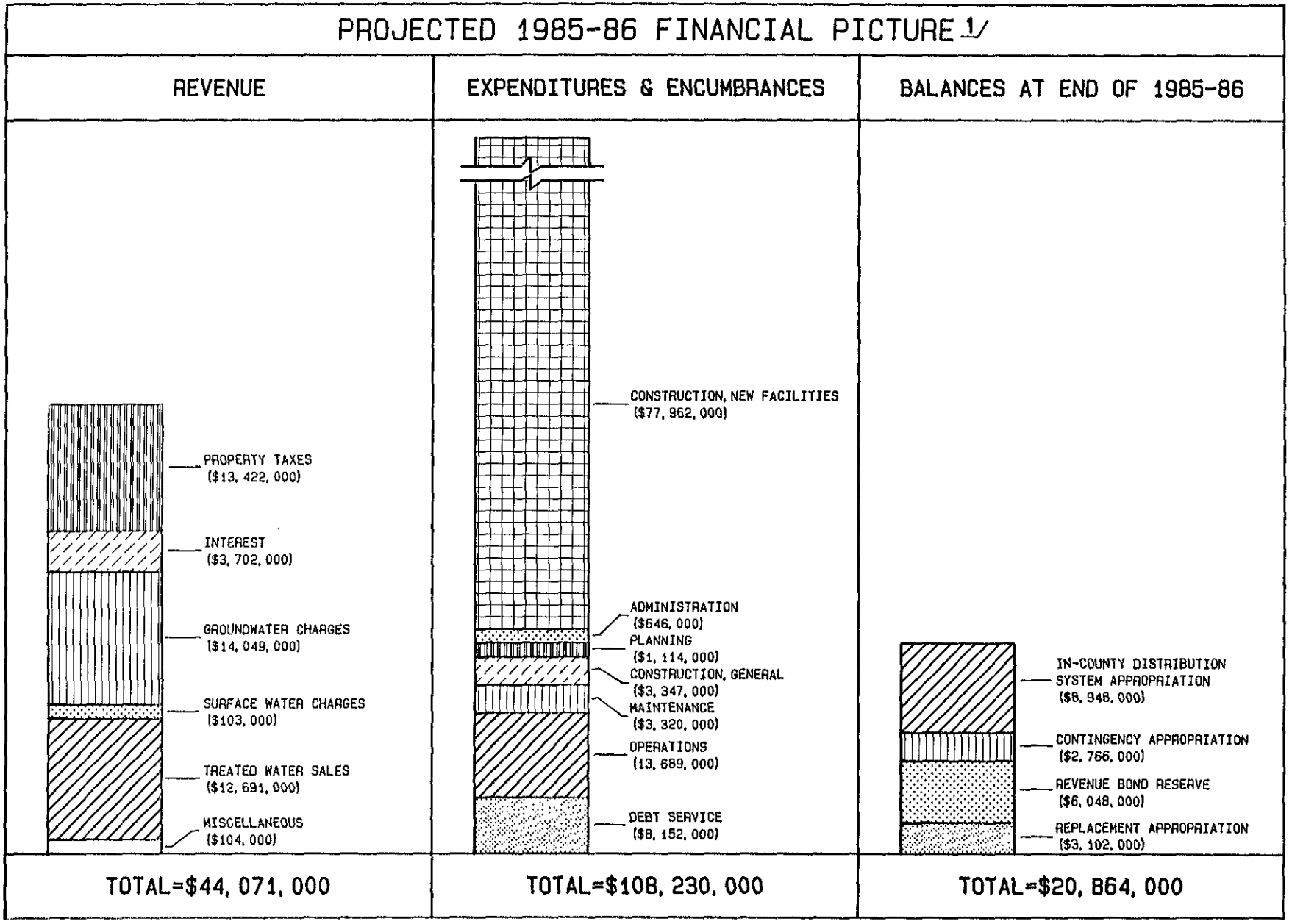
The projected revenue from taxes includes the one percent allocation ($4,268,000), the debt service taxes ($2,146,000), and the State Water Project tax ($7,008,000).

Projected expenditures for 1985-86 include costs to operate and maintain existing facilities, to purchase State Water Project water, and to design and build new facilities.

Major costs are Anderson Spillway design and construction ($3,741,000), Santa Teresa Water Treatment Plant, Santa Teresa Tunnel, Greystone Pipeline, Greystone Pump Station, Santa Teresa Force Main, and associated pipelines construction ($57,201,000), Snell Pipeline design and Phase I construction ($13,345,000), and Anderson Generating Facility construction ($2,231,000).

. . . for the Next Fiscal Year (1985-86)

PROJECTED 1985-86 FINANCIAL PICTURE 1/



1/ ESTIMATED IN FEBRUARY 1985.

Water Charges...

Groundwater charges and equivalent basic user rates to be levied in 1985-86 in Zones W-2, W-3.1, W-3.2, W-3.3 and W-3.5 are summarized in the table below. No groundwater charges are to be levied in Zones W-5 and W-6, and the District waives the requirement to report water production of wells in those zones in 1985-86. The countywide ad valorem State Water Project Tax will be levied to generate $7,008,000. [1]

GROUNDWATER CHARGES [2]
AND BASIC USER RATES [3]
IN ZONES W-2, W-3.1, W-3.2, W-3.3, AND W-3.5
FOR
FISCAL YEAR 1985-86

Agricultural Water (Ag.)	$22.50/Acre-Foot
Nonagricultural Water (M&I)	$90.00/Acre-Foot

1/ Adopted May 14, 1985 by the Board of Directors through Resolution 85-30.
2/ Adopted May 14, 1985 by the Board of Directors through Resolution 85-28.
3/ Adopted May 14, 1985 by the Board of Directors through Resolution 85-29.

WATER RATE COMPONENTS AND WATER CHARGES FOR FISCAL YEAR 1985-86 1/

Components

COMPONENT	RATE
Basic User, Zones W-2, W-3.1, W-3.2, W-3.3, W-3.5	
Agricultural	$ 22.50/AF
Municipal and Industrial	90.00/AF
Basic User, Zones W-5, W-6	
Agricultural	0.00/AF
Municipal and Industrial	0.00/AF
Treated Water Surcharge	
Contract	80.00/AF 2/
Noncontract	28.00/AF
Water Master	9.00/AF
Capital Cost	
Half Road Lateral System	2.75/AF
Power	
Half Road Lateral System	4.00/AF
Evergreen System	35.00/AF
Palo Alto Reclamation System	4.00/AF

Charges

TYPE OF CHARGE	AG WATER	M & I WATER
Groundwater		
Zones W-2, W-3.1, W-3.2, W-3.3, W-3.5	$ 22.50/AF	$ 90.00/AF
Zones W-5, W-6	0.00/AF	0.00/AF
Surface Water		
Evergreen Deliveries	66.50/AF	134.00/AF
Half Road Deliveries	15.75/AF	15.75/AF
Other Zone W-3 Deliveries	9.00/AF	9.00/AF
All Other Deliveries	31.50/AF	99.00/AF
Minimum Charge	63.00/YR	63.00/YR
Stored Water	22.50/AF	90.00/AF
Treated Water		
Contract	-	170.00/AF
Noncontract	-	118.00/AF
Reclaimed Water		
Palo Alto 3/	35.50/AF	103.00/AF
Gilroy	20.00/AF	80.00/AF

1/ Adopted by the Board of Directors through Resolutions 85-28, 85-29 on May 14, 1985 and 84-28 on April 17, 1984.

2/ Treated Water Surcharges for 1985-86 and 1986-87 are $80.00/AF and $85.00/AF, respectively, as adopted by the Board of Directors through Resolution 84-28 on April 17, 1984.

3/ Under the current Agreement with the City of Palo Alto, up to one million gallons per day may be delivered for landscape irrigation use at a charge of $90.00/AF. In addition, up to 400,000 gallons per day would be delivered to the City of Palo Alto at no charge for its in-plant use.